

**CHICAGO POWER
ELECTRIC® SYSTEMS**

***POWER INVERTER
700 WATT / 1800 WATT PEAK***

Model 91848

ASSEMBLY AND OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at <http://www.harborfreight.com>

**TO PREVENT SERIOUS INJURY,
READ AND UNDERSTAND ALL WARNINGS
AND INSTRUCTIONS BEFORE USE.**

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For technical questions and replacement parts, please call 1-800-444-3353

Specifications

ITEM	DESCRIPTION
Continuous Power	700 Watts
Peak Power	1800 Watts
Input Voltage	12 Volts DC
Output Voltage	115 Volts AC at 60 Hz
AC Receptacles	(2) Two 3-Prong, Polarized Outlets
Efficiency	Approximately 90%
Fuse	30 Amps (internal, not user-serviceable)
Dimensions	9" L x 6- ³ / ₈ " W x 2- ¹ / ₄ " H
Weight	5.1 lbs
Indicators	Green LED = power on
Switch	Rocker type, On / Off
Operating Temperature	50-113° F
Battery Input Cords	Cigarette lighter cable and plug (not included; limited capacity) Battery cable with clamps (not included; #4 AWG or larger cables recommended)
Features	- Modified sine wave with overload protection - Overload shutoff - Low voltage alarm ¹ and cutoff ² ¹ at 10.5 V; ² at about 8 V

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using this device, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Do not plug in a battery charger** if the charger has a warning that dangerous voltages are present at the battery terminals.
2. **Keep work area clean.** Cluttered areas invite injuries.

3. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
4. **Keep inverter away from any direct heat source or combustible material.**
5. **Do not open the metal case;** risk of electric shock.
6. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
7. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
8. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
9. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
10. **Use eye protection.** Always wear ANSI approved impact safety goggles when using tools.
11. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
12. **Maintain tools with care.** Keep tools sharp and clean for better and safer performance. Follow instructions for changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician.
13. **Disconnect power.** Unplug inverter when not in use.
14. **Avoid unintentional starting.** Be sure the switch is in the Off position when not in use and before plugging in any appliance.
15. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
16. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.

17. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
18. **Servicing.** This device should be serviced only by a qualified technician. This item does not have any user-replaceable parts.
19. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
20. **People with pacemakers should consult their physician(s) before using this product.** Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker.
21. **Use tools with both hands when required.** Many tools such as chain saws, drills, routers, etc., require the use of both hands when operating. This helps maintain tool stability and keeps hands away from the working area of the tool.
22. **Keep the Inverter well-ventilated.** Do not place any objects on top of or next to the Inverter or allow anything to cover the cooling fans; doing so can cause the Inverter to overheat, causing a potential fire hazard and/or damage to the Inverter.
23. **Read and adhere to all warnings and safety precautions in the owner's manual for the device that this inverter is used to power.**

Note: Performance of this unit may vary depending on the inverter voltage, available battery power, or appliance wattage.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

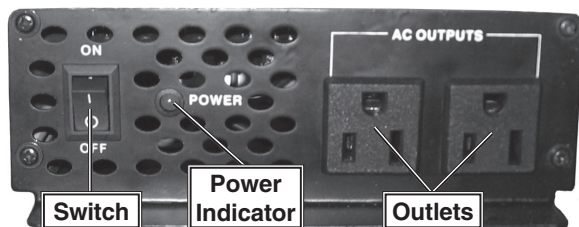
Warning: If a cigarette lighter plug with cable (not included) is used to power the Inverter, do not attempt to power a device over 150 watts; to do so will damage the Inverter.

Unpacking

When unpacking, check to make sure that the Inverter is in good condition. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.

Operation

FRONT

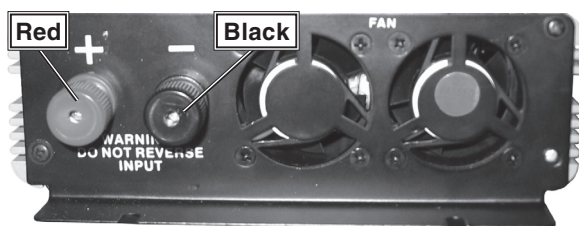


WARNING!

Risk of Fire!

The positive battery terminal connection must be the **LAST** connection and must be done with the inverter's switch off.

BACK



For the power inverter to work properly, your power source must provide 12 volts DC, and the power source must provide enough current (i.e., 46 amps to operate the load of 560 Watts or under).

Caution: This inverter must only be connected to batteries with a nominal output voltage of 12 volts. Lower voltage will not operate the inverter properly, and more voltage could damage the inverter or the device being powered. Do not use this inverter with positive ground electrical systems.

1. Place the Power Inverter on a flat surface. Make sure it has adequate ventilation and is not in direct sunlight.
2. Connect the battery clamp cable lugs (not included; #4 AWG or larger cables recommended) to the red and black terminal screws on the back of the Inverter, see *BACK* above. Securely tighten.
3. The Power Inverter can be used either while the engine is running or off. Connect the Battery Cable Clamps (not included) to the negative (black) and Positive (red) terminals of the battery.
4. Plug the 115 VAC device(s) you wish to power into the 3-prong AC Receptacles. See *FRONT* above. The appliance(s) must not use more than 700 (total) watts during continuous operation, otherwise it may overload the Inverter.

Caution: Some rechargeable appliances may damage the Power Inverter or the appliance. When first using a rechargeable device, check the inverter's temperature for the first 10 minutes. If it becomes abnormally hot, do not use this device with the Inverter.

5. Flip the Power Switch to the On (I) position to turn on. Do not use the appliance until the green power LED indicator is on.
6. Turn on appliance. If an alarm sound is heard, turn off the appliance.

Caution: It is recommended that the vehicle be started every hour to recharge the battery system. Doing this will help prevent any unexpected shutdown of the equipment. This will also help ensure that there will be enough battery power to start the vehicle.

Appliance Power Consumption

The Appliance Power Consumption table below gives **approximate** general use wattage. **Always verify the appliance wattage before using.**

APPLIANCE	WATTAGE
Buffer	77 Watts
Camcorder Charger	99 Watts
Drill Charger	8 Watts
Glue Gun	20 Watts
13 inch Color TV	72 Watts
VCR	40 Watts
CD Changer	60 Watts
Laptop Computer	80 Watts

Maintenance

1. This device does not contain any replaceable parts. If it needs service take it to a qualified technician.
2. Keep this unit clean and dry. Unplug the unit before cleaning. Clean only the outside of this unit with a soft, dry cloth; never clean this unit with water or harsh cleaners.

Troubleshooting Tips

1. If the low battery alarm sounds, this means that the input voltage is below the necessary 10.5 V. The battery needs recharging. You should stop using the appliance and then recharge the battery. If this is not done, the Inverter will shut off automatically at around 8 V.
2. If you are unsure if the inverter will have the proper amount of current to run the device, use this rough guideline: Take the power consumption of the load in watts and divide it by 12 (input voltage). The result will be the approximate number of amps needed to power your device.

Example: Load is rated at 312 watts. $312 \text{ watts} / 12 \text{ V} = 26 \text{ amps}$ needed. You could use this device with the inverter.

3. If your television will not start, it is important to keep in mind that some appliances (including many televisions) may require two to six times their wattage to start up. This inverter will not work with such devices.
4. If your audio system buzzes while using this inverter, it is because some sound systems can not filter out the modified sine wave produced by the inverter. The only solution is to use a sound system that incorporates a higher quality power supply.
5. This inverter is made to minimize the interference with TV signals. However, especially with weak TV signals, some interference may still be visible. To correct this, place the inverter as far away as possible from the television antenna and it's cables. Next, adjust the orientation of the inverter to the antenna cables and TV power cord to minimize the interference. Also use a shielded antenna cable.
6. If the low battery alarm is on all the time, try these corrective measures: Recharge battery if in poor condition. Next, check the condition of the lighter cable plug and the socket. You may need to clean the socket.
7. If you are getting a low output voltage, try reducing the load to minimize watts. You may have overloaded the inverter. Reduce your load to 140 watts. Also, keep input voltage above 10.5 volts to maintain a constant flow of power.
8. If you are not getting any power output, turn the power switch Off and On again, until the green power light comes on. Some automotive systems require that the ignition be turned on. Turn the ignition to the accessory position. Your devices may draw too much power to operate them. The inverter may be in thermal shutdown. Let it cool down and make sure there is adequate ventilation around the unit.